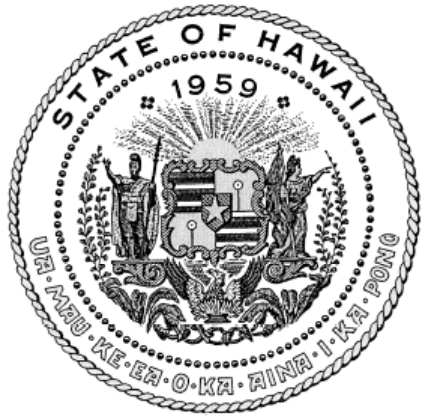
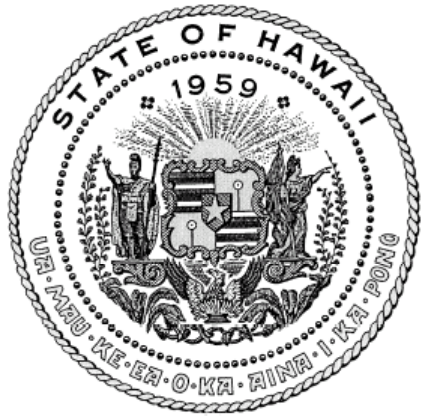


Topic 4: Status Quo Simulation

Manny Macatangay
Senior Economist
Economists Incorporated
Direct (510) 420-5625
http://www.ei.com

Discussion Points

- Simulation Model
  - Production Modules
  - Financial Modules
- Status Quo Simulation
  - Objective
  - Approach
  - Outputs

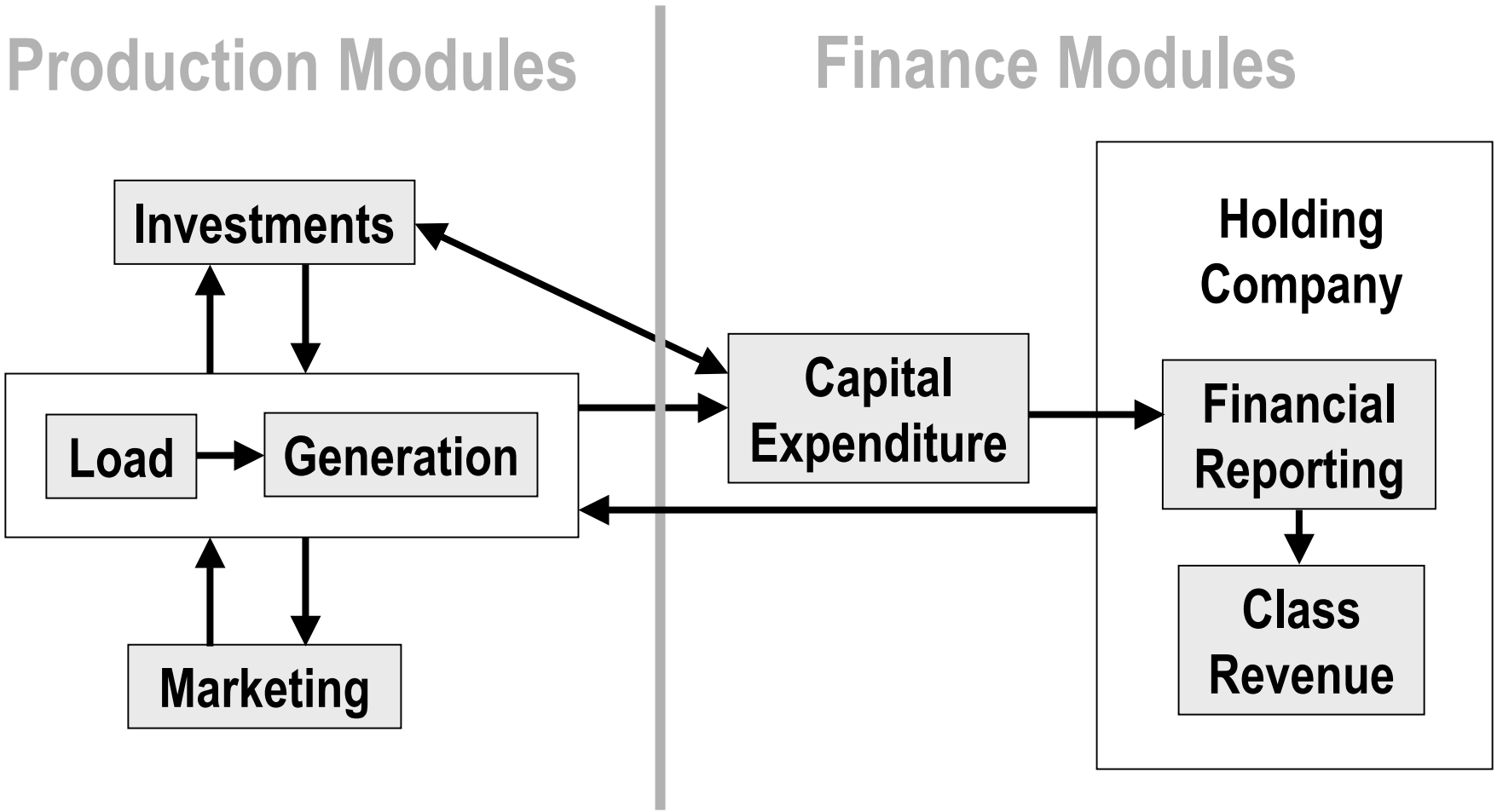


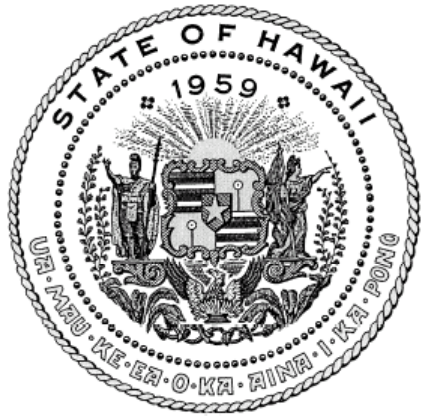
Simulation Model

Simulation Model Components

- **Production Modules (4)**
  - **Load**
  - **Generation**
  - **Investments**
  - **Network trade**
- **Finance Modules (4)**
  - **Capital expenditure**
  - **Financial reporting**
  - **Class revenue/tariffs**
  - **Holding company**

Model Schematic





Status Quo Simulation

Objective

- Capture the operations of power markets in Hawaii over several future years under cost-of-service regulation
- Simulation of island power markets
  - Hawaii
  - Oahu
  - Maui
  - Molokai
  - Lanai
  - Kauai
- Study period: 20 to 30 years

Approach

- Generation mix constrained to satisfy RPS
- Future consumption patterns
- Future tariff levels & structures
- Continuation of cost-of-service regulation throughout the study period
- Future opportunities for utilities to earn a reasonable rate of return

Forecasts

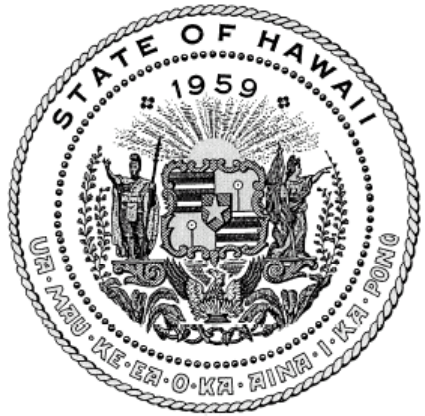
- Load profiles
- Fuel prices & supplies
- Generation & transmission capacity additions
- Cost-of-service regulatory tools

Scale, Timing, & Location of Investments

- Gathering of suggestions on the scale, timing, & location of generation & transmission investments
- Simulation of renewable energy investments as part of a least-cost expansion plan
  - Consistent with the RPS
  - Encourages investments in renewables

Outputs

- Forecast of future conditions in island power markets
- Forecast electric utility rate designs
- Meaningful forecasts assuming the continuation of cost-of-service regulation



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